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ABSTRACT

Inservice training, even if brief, should have long-lasting effects. In regard to developing behavioral teaching skills, research with classroom teachers suggests that rehearsing and practicing appropriate skills is superior to listening to lectures and participating in discussions on behavior theory. If teachers are taught self-control techniques where they learn to monitor their own behavior, set goals for themselves, and arrange their own environmental conditions, inservice will not only become more personalized, but will also be likely to have a more permanent influence. Three behavior change and reinforcement techniques specifically tailored to the needs of physical education coaches and using audiovisual aids are: (1) self-monitoring of specific teacher or student behavior; (2) self-initiated goal setting; and (3) self-initiated environmental planning. (JD)

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Personalized Inservice in Physical Education: Developing and Maintaining Teaching Skills through Self-Analysis

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Personalized Inservice in Physical Education: Developing and Maintaining Teaching Skills through Self-Analysis

The purposes and content of inservice programs for those interested in improving instruction in physical activity settings are tremendously diverse. However, in regard to conducting the inservice there appear to be three common approaches. First, the smorgasboard approach -- where there is a great variety to select from and participants run from room to room or table to table gobbling up what appears to be the most attractive portions. Second, the short love affair -- participants find themselves thoroughly engaged in an event that had not really planned for -- it's pleasant, exciting, and very different -- but come Monday, it's back to the same old thing. Third, the serial -- several episodes planned around a central theme, perhaps not unlike Alan Alda's move, "The Same Time Next Year." The effectiveness of these approaches in bringing about real changes in the quality of instruction in physical activity settings is questionable. The purpose of this paper is to describe an alternative approach to inservice -- one that not only personalizes inservice but is inexpensive in terms of trainer time and one that provides for continuity. This approach involves teachers systematically developing and maintaining their own teaching skills through behavior analysis techniques, particularly antecedent control techniques.

The type of inservice being addressed is that of training teachers (and sometimes coaches) to develop specific teaching skills, particularly

in regard to managing and motivating students. Research in classrooms and physical activity settings has demonstrated a wide variety of behavioral techniques to be effective in altering student behavior (McKenzie, 1981). These include using praise, feedback, the Premack principle, contingency contracting, behavior games, token economy systems, mild forms of punishment such as time out and response cost, and rearranging setting events to make the environment more productive.

A wide variety of procedures have been used to teach these behavioral techniques to teachers during inservice training (McKenzie, 1981). These include lectures, instructions on how to perform in the home setting, modeling, videotape feedback, social reinforcement, token reinforcement, and prompting. Just how effective have these procedures been? Unfortunately, like most other inservice programs, there have been few long-term studies. They require considerable time, effort, and expense. Check lists and rating scales at the end of training provide an immediate evaluation of a program, but whether or not inservice is successful in the long run is frequently uncertain and unpredictable.

In classroom settings, a few studies have been done to test the effectiveness of various inservice training components. It is clear from these studies, which involved direct observation in the teacher's home setting before the inservice and again after training, that lectures about behavioral teaching skills are ineffectual unless they are combined with other training procedures. Other procedures such as modeling, videotape analysis, social reinforcement, and prompting appear to be effective if they are combined with teachers receiving feedback about their performance.

In one of the few studies completed in physical education settings, Whaley (1980) found that feedback to teachers by itself was insufficient in bringing about changes in teaching behavior.

One of the major problems indicated by those who have studied inservice training has been lack of generalization, which consists of both response maintenance and transfer of training. After inservice, teachers frequently fail to maintain newly learned skills over time and fail to use them in settings other than the training setting unless something else is done.

In this regard, the usefulness of training a school principal to assist teachers in maintaining their new skills has been investigated (Dangle, Conard, & Hopkins, 1979). The principal completed the same inservice program as the teachers but in addition received training in systematic observation and practice in giving objective feedback to teachers. After the inservice training, the principal observed each teacher once a week and provided objective data, positive feedback about the skills the teacher had used, and offered possible solutions to existing problems. The teachers not only were supportive of this follow-up procedure but they maintained their newly learned skills over 25 weeks, the length of the study.

As mentioned previously, despite substantial changes in teacher behavior during training, the use of new skills tends to deteriorate in the natural setting, particularly if external consequences are withdrawn. Meanwhile, funding agencies indicate that maintenance procedures such as training the school principal are time consuming and expensive. A possible

solution to this dilemma is to use inservice training to teach teachers to develop and maintain personal teaching skills through self-control techniques.

Self-control is the application of behavior analysis principles to the management of one's own behavior. It has received increased interest both in research and application during the past 10 years, particularly in clinical settings (Stuart, 1977; Thorsen & Mahoney, 1974). Since a major goal of teacher training is to develop self-analyzed, self-directed teachers, the self-control paradigm fits well into the inservice training model.

Briefly, self-control consists of two classes of behavior. The first class involves several antecedent stimulus control techniques--that is, techniques by which an individual learns to engage in behaviors that precede the target behavior, the behavior to be changed. These techniques consist of (a) self-monitoring (of specific teacher or student behaviors), (b) self-initiated goal setting, and (c) self-initiated environmental planning. These three techniques are often referred to as stimulus control techniques.

The second class of self-control techniques consists of self-initiated consequential control or reinforcement control. Reinforcement control techniques include (a) self-reinforcement, (b) self-punishment, and (c) self-initiated environmental reinforcement. The last involves teachers arranging for significant people in the environment to reinforce them for managing their own behavior. This paper addresses antecedent control techniques only.

Self-monitoring

Self-monitoring refers to systematically observing and recording one's own behavior. It can range from very informal, subjective, and simple procedures to procedures that are more formal, objective, and complex in nature. Of course the more systematic the method, the more reliable and accurate the data will be. Two excellent texts are available to assist physical educators in learning to monitor their own behavior. They are Developing Teaching Skills in Physical Education (Siedentop, 1976) and Analysis of Teaching Physical Education (Anderson, 1980).

Common forms of gathering data on one's self include using:

1) record books and forms (compact, inexpensive, easily transported, and simple to use pencil and paper devices);
2) counters (simple devices such as wrist counters designed to record golf scores and abacus-like bracelets);
3) cumulative timers (digital stopwatches with an accumulative feature to record the length of important student or teacher behaviors);
4) permanent records.

Audio tape recordings of teacher behavior are easy to obtain. Although a wireless microphone is desirable, some smaller cassettes fit easily into the pocket of a gym-suit. Video tape recordings are even more useful because they include visual images and information on student behavior. However, they require more expensive equipment as well as someone to operate it. An advantage of audio and video recordings is that large amounts of data are permanently available to teachers so they can observe themselves privately and at a time that is personally convenient.

Self-monitoring provides a means for assessing teacher behavior. Individual assessment is important (1) to determine if inservice training is required; (2) if training is required to identify what particular behaviors each teacher needs to change; and (3) to ensure that training indeed has had an effect on making this change.

As a research technique, self-monitoring offers some problems as the data obtained are not always reliable. However, for inservice training purposes self-monitoring is extremely valuable. It is cost efficient compared to hiring trained observers and it is perhaps the only method of obtaining information on private inaccessible behaviors. In addition, self-monitoring minimizes the unwanted effects of observers being present in the instructional setting. But perhaps more importantly, as a clinical technique, self-monitoring is reactive. That is, the mere act of observing and recording one's own behavior often brings about desirable changes in that behavior.

The reactive effects of self-recording were illustrated in a study of the behavior of an age-group swim coach (McKenzie & Rushall, 1980). On a number of occasions the coach clearly identified to his swim team and the experimenter four discrete and observable behaviors that were responsible for team members being disqualified during meets. Direct observation, however, indicated that during practice the coach rarely provided feedback to swimmers regarding these important behaviors, and whenever there was mention of these events it was in the form of a reprimand. When provided with a recording form on which the coach was to score any interaction he made regarding the four behaviors beside the name of each swimmer and indicate whether the

interaction was positive or negative, several changes were noted. First, there was a tremendous increase in the rate of feedback regarding these four behaviors. Second, the valence of the coach's reactions became much more positive; and third, the coach interacted with a greater number of different swimmers. Previously he had been directing his feedback to a limited number of swimmers, the better ones and the more disruptive ones.

Insert Figure 1 about here

Self-recording was stopped after six 20-minute sessions. As illustrated in Figure 1, the dramatic effect of the procedure was not permanent. The high rates of responding gradually decreased over the next twenty days, perhaps because the coach had selected new target behaviors but more likely because six short self-recording sessions were insufficient to firmly establish feedback patterns with this particular coach.

Rushall and Smith (1976) used a similar self-recording procedure to bring about positive changes in the instructional behavior of another swim coach. In this study self-recording produced increased rates of verbal reward and increased rates and variety of feedback statements. Follow-up observations two months after the termination of the self-recording procedures showed response maintenance for all target behaviors. This indicated a permanent change in the coaches' repertoire had been achieved. The researchers attributed response maintenance in this study partly to be a result of the fading schedules that were used to reduce the coach's reliance on the self-recording sheets as a prompt.

Reactivity, and consequently behavior change through self-monitoring is likely to be increased if teachers are (1) change-motivated, (2) asked to monitor a limited number of positively or negatively valued target behaviors, and (3) provided with feedback related to personal goals or standards (McFall, 1977).

Self-initiated goal setting

Selecting a personal goal is an important step in self-managing one's teaching behavior. Goals can be initiated by a teacher or can be suggested by an inservice trainer, based on assessment data. In either case, it is important that the goal selected be something that really matters to the teacher. No amount of coaxing or lecturing is going to bring about permanent changes if the teacher doesn't think the change will improve the situation. It is also important that teachers work on one goal at a time, even though the inservice trainer may see the need for radical changes in an entire teaching repetoire. Focusing on a single goal improves the teacher's chance of success and increases the probability of working on other goals. The goal to be worked on should also be defined behaviorally so that progress towards it can be measured.

Insert Figure 2 about here

The following data for an experienced gymnastics instructor illustrate how personalized goal-setting has been used by a teacher who already had quality teaching skills (McKenzie, 1981). After an assessment period, the teacher decided he would first like to reduce his use of the distracting

verbal mannerism, "OK." The intervention system consisted of goal-setting by the teacher and instructions and feedback from an inservice trainer. Two sessions after the intervention for "OKs" the teacher's rate of interacting with students on a first name basis was added to the change procedure. Two sessions after this, a third behavior, that of providing positive specific feedback statements, was targeted for change. The intervention procedure was successful for all three behaviors. The use of "OKs" was suppressed while the rates for interacting personally with students on a first name basis and for giving positive specific feedback increased.

Follow-up observations one year after the intervention procedure indicated response maintenance and transfer of training for the three behaviors. Use of "OKs" continued to be suppressed and positive specific feedback statements continued at target levels. Use of first names was substantially higher than baseline levels but lower than during training conditions. Once again it is important to note that the target behaviors selected were of personal concern to the teacher, that they were targeted for change one at a time, and that they could be measured precisely.

Self-initiated environmental planning

This third antecedent control technique involves individual teachers arranging environmental situations that will lead to desired changes in his/her teaching performance. Using a recording form for self-monitoring is one example of this technique. The recording form prompts the teacher to behave in certain ways. Teachers can also prompt themselves by writing cues on 3x5 cards or on a chalkboard. Posted messages, such as a sign on the equipment room door telling the teacher to praise appropriate behavior,

can be coded if necessary. Programmed audio-cassette tapes that signal intermittently throughout the class period are also useful. The signals can be a cue for the teacher to respond in a certain manner, such as to monitor the whole class or to provide specific feedback to a performer.

Two swim coaches modified their pool environment and improved their instructional performance by using program boards to direct the training of age-group swimmers (McKenzie & Rushall, 1974). Large display boards with removable program cards and spaces where swimmers could self-record the completion of performances were placed in each pool lane. With the aid of this innovation, work output by the swimmers increased by twenty-seven percent. In addition to increasing distance and individualizing workouts for swimmers, the program boards freed the coaches from traditional directing tasks and allowed them to do more important events such as give feedback and individual instruction.

As a final example of environmental planning, research at San Diego State is being conducted to study teacher behavior and student Academic Learning Time in the fencing classes of a teacher who has initiated the use of audio tapes to direct group drilling periods. With this change the monotonous directing and cadence calling tasks are done by a tape recorder and the teacher is free to do other things. Preliminary data indicate that when the tape recorder is used to direct the drilling students receive the same amount of practice opportunity as when the drilling is directed by the teacher, however under tape directed conditions students receive a significant greater amount of feedback and individual attention from the teacher (McKenzie, Clark, & McKenzie, 1981).

In summary, three techniques have been identified which permit teachers to gain antecedent control over their own teaching behavior--self-monitoring, goal-setting, and self-initiated environmental planning. Time does not permit an elaboration of self-initiated consequential control techniques. However, it is well known that reinforcement needs to be present in order for quality teaching performance to be sustained.

Inservice training, even if short, should have long-lasting effects. In regard to developing behavioral teaching skills, research with classroom teachers suggests that rehearsing and practicing appropriate skills is superior to listening to lectures and participating in discussions on behavioral theory. If teachers are taught self-control techniques where they learn to monitor their own behavior, set goals for themselves, and arrange their own environmental conditions, inservice will not only become more personalized it is also likely to have a more permanent impact.

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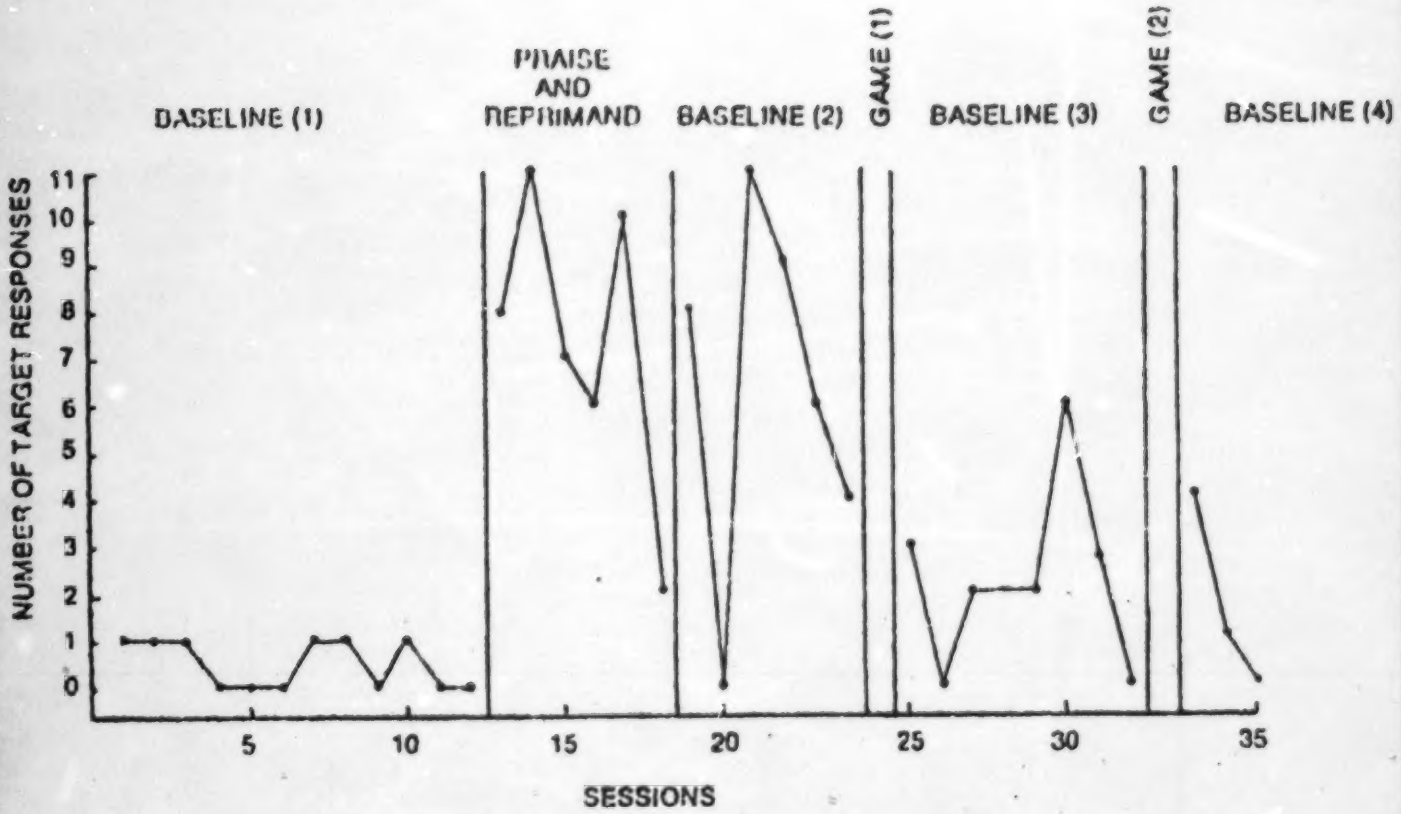

Figure 1 Frequency of Coach's Interactions regarding Inappropriate Target Behaviors

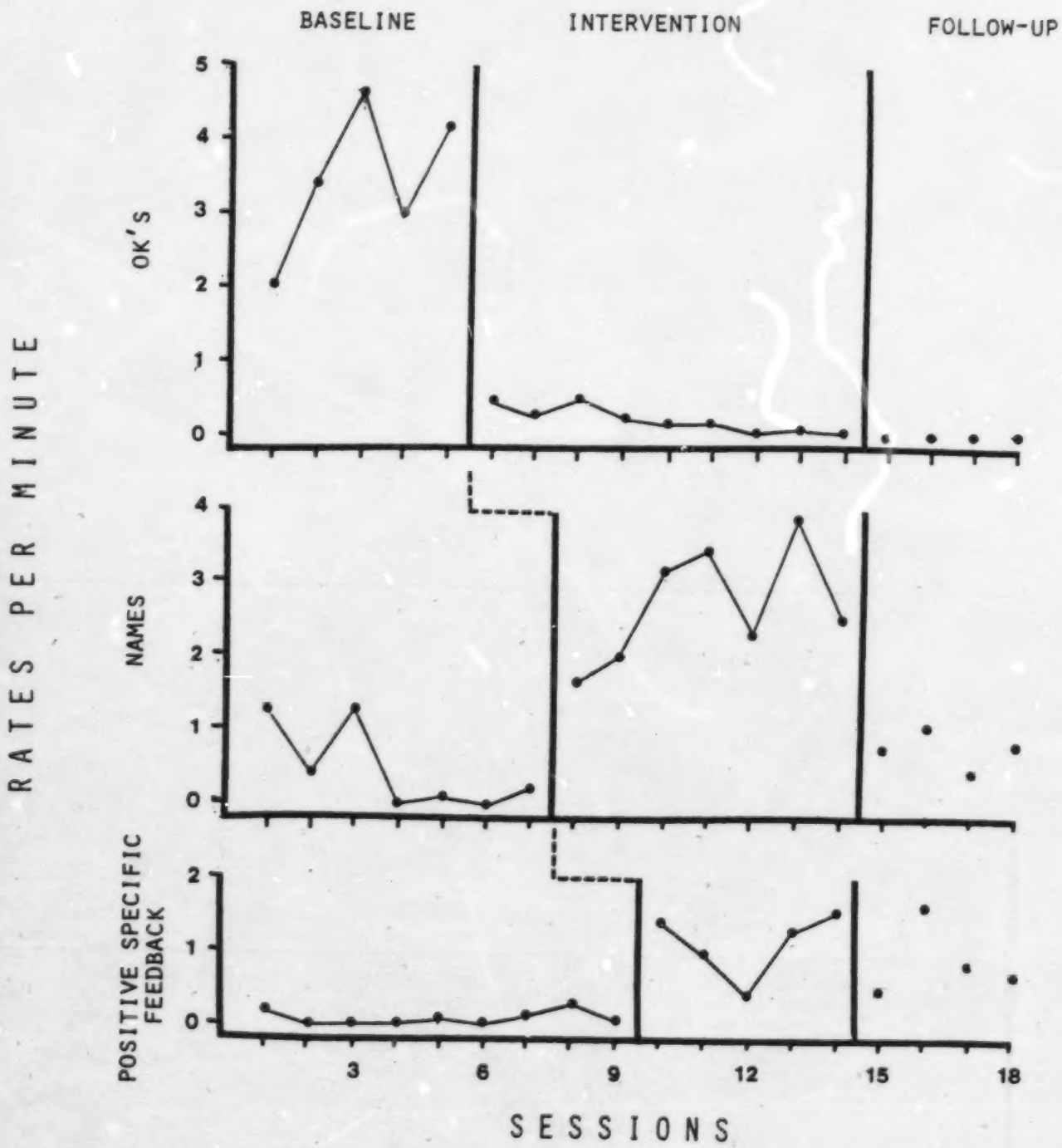

Figure 2. Rates of "OK's", first names, and positive specific feedback statements per minute for baseline, intervention, and follow-up conditions in the training setting.